conductor image sensing element **50** according to the present embodiment, the light-shielding liquid filler need not necessarily be used. A transparent liquid filler may also be used instead. In this case, the liquid filler can be entirely cured by irradiation with a UV light beam so that it is unnecessary to perform a thermosetting process.

[**0117**] The arrangement can prevent a reflected light beam or a scattered light beam from being incident on the image sensing area **13** from the side surface region of the optical member **18** and causing flare, spear, or the like and thereby prevent optical noise. Since the semiconductor image sensing element **50** and the mounting substrate **52** are connected by a face-down mounting method, the thinner and more compact semiconductor image sensing device **60** can be implemented.

[**0118**] FIG. **13** is a cross-sectional view showing a structure of a semiconductor image sensing element **65** according to a variation of the present embodiment. FIG. **14** is a cross-sectional view showing a structure of a semiconductor image sensing device **70** using the semiconductor image sensing element **65**.

[**0119**] The-semiconductor image sensing element **65** according to the variation is a semiconductor image sensing element with bumps which is constructed by providing bumps **58** on the electrode portions **15** of the semiconductor image sensing element **40** according to the second embodiment. The description of the bumps **58** will be omitted since they can be fabricated in accordance with the same method as used to fabricate the semiconductor image sensing element **50**. The process steps of forming the semiconductor image sensing elements **65** in the state of a semiconductor wafer and then cutting the semiconductor wafer into the separate individual semiconductor image sensing elements **65** can also be performed in the same manner. The description of the structure of the semiconductor image sensing device **70** shown in FIG. **14** and a fabrication process therefor will also be omitted since they can be the same as those of the semiconductor image sensing device **60**.

[**0120**] In the semiconductor image sensing element **65** having such a structure and the semiconductor image sensing device **70** using the same, optical noise can be prevented and electric noise can also be suppressed since the bumps **58** provide connection between the electrode portions **15** of the semiconductor image sensing element **65** and the electrode terminals **53** of the mounting substrate **52**.

[**0121**] The side surface region of the optical member composing the semiconductor image sensing element can also be formed into various configurations shown in FIG. **4**A to **4**D. By forming the side surface region of the optical member into such configurations, the influence of a reflected light beam or a scattered light beam can be more reliably prevented.

[**0122**] As shown in FIGS. **15**A to **15**C, the fabrication method according to the present embodiment can also be implemented as follows. Specifically, the semiconductor image sensing element and the mounting substrate having the opening wider than at least the image sensing area of the semiconductor image sensing element and having the electrode terminals arranged around the opening to be connected to the electrode portions of the semiconductor image sensing element by a face-down mounting method are connected by bringing bumps provided on the surfaces of the electrode portions of the semiconductor image sensing element into contact with the electrode terminals.

[**0123**] Next, the molding resin is formed on the mounting region between the semiconductor image sensing element and the mounting substrate and on the portion of the mounting substrate which is adjacent to the mounting region.

[**0124**] At this time, a semiconductor image sensing element which comprises: a semiconductor element including an image sensing area, a peripheral circuit region, a plurality of electrode portions provided in the peripheral circuit region, and a plurality of micro-lenses provided on the image sensing area; and an optical member having a configuration covering at least the image sensing area and bonded over the micro-lenses via a transparent bonding member is used.

[**0125**] As the molding resin, a material which covers the bumps and the electrode terminals, cuts of at least a visible light beam, and is cured with the application of a UV light beam or heat is used. In the case of using a UV setting material, in particular, the resin covering the side surface region of the optical member can be controlled not to seep over to the upper surface of the optical member.

[**0126**] Such a fabrication method can prevent the incidence of a reflected light beam or a scattered light beam from bumps or the like on the image sensing area without preliminarily forming the optical member with a light shielding film, a light shielding pattern, or the like.

[**0127**] FIG. **16**A is a graph showing the degradation of sensitivity resulting from the size reduction of a typical CCD cell and FIG. **16**B is a table showing for comparison the effects of a hollow package having a conventional structure and a semiconductor image sensing device according to the present invention.

[**0128**] In general, an image sensor is required to have a larger number of pixels at a higher density, while the size reduction of a CCD cell is promoted. However, as the size of the CCD cell is increasingly reduced, the sensitivities of GRB as three primary colors also lower. Among GRB, human eyes are most sensitive to G (Green) at wavelengths of 540 nm. The degradation of the sensitivity of G (Green) with the size reduction of a typical CCD cell is graphed and shown in FIG. **16**A. The effects of the hollow package having the conventional structure and the semiconductor image sensing device according to the present invention are shown for comparison in FIG. **16**B. When the comparison is made between CCD cells of the same size, the sensitivity of G (Green) improves by about 8%. The sensitivity of each of R (Red) and B (Blue) as the other primary colors also improves by about 4%.

[**0129**] Thus, in the semiconductor image sensing element according to the present invention and the semiconductor image sensing device using the same, the incidence of a reflected light beam or a scattered light beam on the image sensing area from the side surface of the optical member can be prevented by using a simpler structure. In addition, the semiconductor image sensing element and the semiconductor sensing device according to the present invention have excellent properties against optical noise and achieve the significant effect of allowing reductions in the thicknesses